

## REMARKS

While not acquiescing to the outstanding rejections and in an effort to expedite allowance of the claims, the applicants have canceled claims 169-175 without prejudice. Currently amended claims 176 to 179, are presented herein to address the rejection for new matter (Office Action ¶5 and 14).

Claims 176 to 179 are directed to hapten carrier conjugates in which nicotine is conjugated to *psuedomonas* exotoxin via particular linkers, *i.e.*, CJ1, CJ3 or CJ11. At the outset, it is noted that the new claims are directed to “hapten carrier conjugates” which the Examiner has determined are enabled by the specification (Office Action ¶16 at p. 12). Moreover, a representative number of species that adequately support the subgenus of conjugates now claimed is described in the instant application, as well as its priority application 08/720,487 (“’487 application”) filed September 30, 1996 (now U.S. Patent No. 5,876,727). Thus, the new claims meet all the requirements of 35 USC § 112, and are entitled to the September 30, 1996 filing date.

There is no dispute that the specification describes and is replete with examples of nicotine as the hapten used in the conjugate (*see, e.g.*, Figs. 6, 17A, 17B, 18A, 18B, and 19, ¶¶ [0047- 0051], [0070], [0078], [0107], [0108], [0146-0147], [0165-0167]. Indeed, the preparation of nicotine-carrier conjugates is demonstrated by way of working examples in the application. *See*, Examples 26, 27, 28 and 29 describing the conjugation of nicotine to BSA or to the *bacterial toxin*, cholera toxin B via various linkers. (*See, e.g.*, paragraphs [0356], [0357], [0370] and [0371] of the instant specification; and the ’727 patent at col. 50, *l.* 51 to col. 51, *l.* 15 and col. 53, *ll.* 24-48.

Cholera toxin B used in the nicotine examples is one of ***only seven bacterial toxins*** described in the specification for use as the carrier in the hapten-conjugates: namely, cholera toxin B, diphtheria toxin, tetanus toxoid, pertussis toxin, filamentous hemagglutinin, shiga toxin and *pseudomonas exotoxin* (*see*, paragraphs [0084] and [0085] of the instant specification and the ’727 patent at col. 13, *ll.* 44-47. Thus, the description of suitable bacterial toxins that can be used for conjugation is not overly extensive, and one skilled in the art would understand from the written description coupled with the working examples that any one of the seven bacterial toxins described in the specification, including *pseudomonas exotoxin*, could be used as the carrier for nicotine conjugates. The applicant’s issued U.S.

Patent No. 5,876,727 claims four of the bacterial toxins described as carriers for nicotine conjugates. The applicant is now claiming pseudomonas exotoxin as the carrier.

Finally, the application fully supports the use of the linkers specified in the nicotine carrier conjugates claimed. Figures 18A and B (accompanied by figure descriptions at ¶¶ [0049-0050]) describe examples of the “branches” used to conjugate nicotine to the carrier, including: CJ 1,  $(CH_2)_nQ$ ; CJ 3,  $CO(CH_2)_nCOQ$ ; and CJ 11,  $YCO(CH_2)_nCOQ$  (Figures 18 A and B are also found in the '727 patent).

In view of the foregoing, the new claims are supported by the written description of a representative number of species that adequately describe the subgenus claimed. Thus, the rejection under 35 USC § 112, for lack of written description (Office Action, ¶15 at pp. 7-12) is obviated and should be withdrawn.

Moreover, the new claims are directed to “happen carrier conjugates” which the Examiner has determined are enabled by the specification (Office Action ¶16 at p. 12). Thus, the rejection under 35 U.S.C. § 112, first paragraph, for lack of enablement is obviated and should be withdrawn.

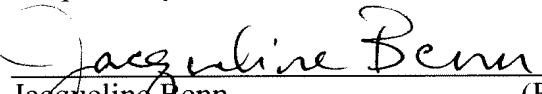
Because the claims are fully supported by the instant specification and the priority application filed September 30, 1996, the claims should be accorded the September 30, 1996 priority date. Therefore, the rejections under 35 U.S.C. § 102 in view of US 6,232,082 which was *subsequently* filed December 1, 1998 and issued May 15, 2001 are obviated and should be withdrawn. Similarly, the obviousness rejections under 35 USC § 103 (Office Action ¶¶ 22-23) and the obviousness-type double patenting rejection (Office Action ¶¶ 24- 26) in view of U.S. Patent No. 5,980,504 to Glenn which was filed on November 14, 1996 and issued November 9, 1999, are obviated and should be withdrawn because at least one reference in each combination relied on is *subsequent* to the September 30, 1996 priority date of the claims.

**CONCLUSION**

Applicants respectfully request that the Examiner consider the amendments and the remarks made herein, and that the Examiner enter them into the record for the present application. An early allowance of claims 176-179 is earnestly sought. The Examiner is invited to contact the undersigned attorney if a telephone call could help resolve any remaining items.

Respectfully submitted,

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